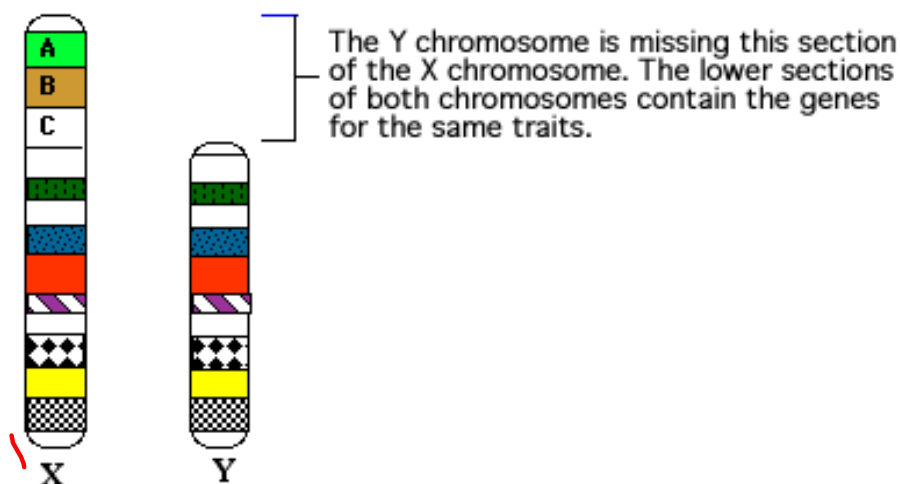


Sex Linked Traits

- traits that are controlled by genes found on the sex chromosomes
- X chromosome contains about 1100 genes, while the Y contains 78
- Y chromosome carries genes that determine sex, X chromosome carry many unrelated sex traits such as
- examples of X linked traits - colour-blind, hemophilia, muscular dystrophy, baldness

Sex-linked Traits



Lesson 6 Sex linked traits.notebook

Examples

1. A normal female carries the gene for colour-blindness (which is a sex linked trait), marries a normal male.

What genotype and phenotype will there children be? ^{B's}

$X^B X^B$ - Normal female

$X^B X^b$ - "Normal" - female carrier

$X^b X^b$ - coloured blind female

$X^B Y$ - normal male

$X^b Y$ - coloured blind male

$X^B X^b \cdot X^B Y$

X^B	$X^B X^B$	$X^B Y$
X^b	$X^B X^b$	$X^b Y$

2. A colour-blind man marries a normal female. Show all the possible genotypes and phenotypes of their children.

$X^b Y \cdot X^B X^B$

	X^B	X^B
X^b	$X^B X^b$	$X^B X^b$
Y	$X^B Y$	$X^B Y$

3. A recessive sex-linked trait gene (h) is located on the x chromosome increases the time it takes for blood to clot. This causes the genetic disease, hemophilia.

A. A carrier female and a hemophilic male have children. Use a punnett square to show their possible offspring.

$X^H X^h \cdot X^h Y$

	X^H	X^h
X^H	$X^H X^H$	$X^H X^h$
X^h	$X^H X^h$	$X^h X^h$

B. Explain how a hemophilic offspring can be born to two parents who are not hemophilic's.

C. Can a female develop hemophilia? Show proof